Engaging and Re-Engaging in HIV Care: Strategies for Success

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Continuum 2024 · June 9-11, 2024 · Puerto Rico

Find and Re-engage Out of Care PWH

- Find
  - Routine HIV screening, Data to Care (D2C), hospitalized, incarcerated
  - (Homeless service providers, facilities serving people who misuse substances, mental health facilities, LGBTQ-serving facilities, facilities for sex workers)
- Intervene
  - Rapid start, financial, navigation, mentoring, psychosocial, multi-level, differentiated care
- Not a comprehensive review but hopefully useful observations
- Themes: no single intervention; multi-component interventions; context and details drive results; many research opportunities

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(Re)-engage in HIV Care: The Problem

- Find undiagnosed PWH:
  - ~ 15% worldwide and in US are undiagnosed
- Find out of care PWH:
  - ~ 10% of diagnosed worldwide not on ART (wide variation by country)
  - ~ 25% of diagnosed in US not in care
- (Re)-engage PWH in care to achieve viral suppression:
  - ~ 7% of people on ART worldwide are not suppressed
  - ~ 14% of in-care in US are not suppressed
- The young, minoritized, stigmatized, poor and otherwise marginalized are over-represented in these groups

Worldwide: WHO, Epidemiologic Fact Sheet, 2023, https://cdn.who.int/media/docs/default-source/hq-hiv-hepatitis-and-stis-library/j0294-who-hiv-epi-factsheet-v7.pdf
US: CDC, HIV Care Continuum, https://www.hiv.gov/federal-response/policies-issues/hiv-aids-care-continuum

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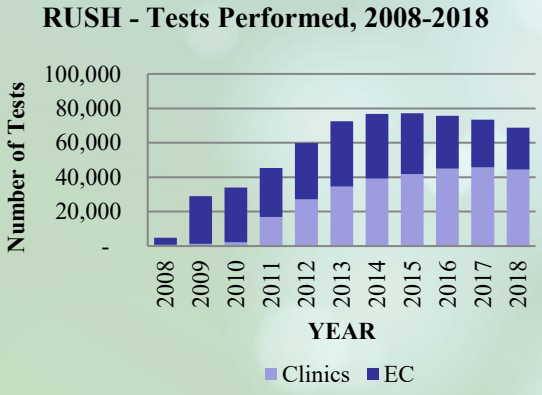
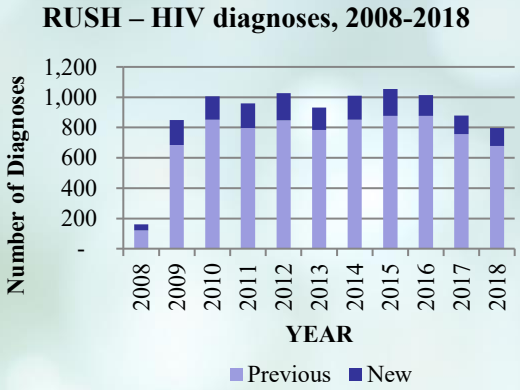
(Re)-engage Out of Care PWH:

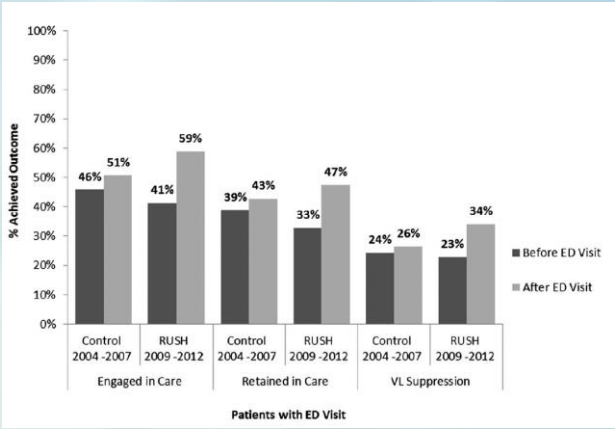
Routine HIV Testing

HARRISHEALTH SYSTEM

Routine Universal Screening for HIV: Project **RUSH**







Routine, lab-based testing, not rapid tests, opt-out testing among persons getting blood test orders

On-site HIV linkage workers handle positive test results, linkage for new and previous diagnoses

>1 million tests done; **9/1000 positive, 1.7/1000 new positive**; higher in ER and homeless clinics

Improved engagement in care for previously diagnosed from 51% pre-RUSH to 59%

Flash et al., JAIDS 2015;69:S8-S15

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Re-engage Out of Care PWH:

Data to Care

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A Cluster Randomized Evaluation of a Health Department Data to Care Intervention Designed to Increase Engagement in HIV Care and Antiretroviral Use

Julia C. Dombrowski, MD, MPH,†‡ James P. Hughes, PhD,§ Susan E. Buskin, PhD, MPH,†‡ Amy Bennett, MPH,†‡ David Katz, PhD, MPH,*† Mark Fleming, BA,† Angela Nunez,† and Matthew R. Golden, MD, MPH*†‡*

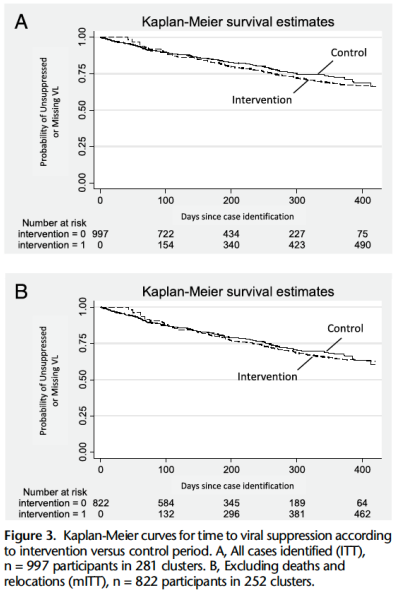


Figure 3. Kaplan-Meier curves for time to viral suppression according to intervention versus control period. A, All cases identified (ITT), n = 997 participants in 281 clusters. B, Excluding deaths and relocations (mITT), n = 822 participants in 252 clusters.

Dombrowski et al., Sex Transm Dis. 2018 Jun;45(6):361-367.

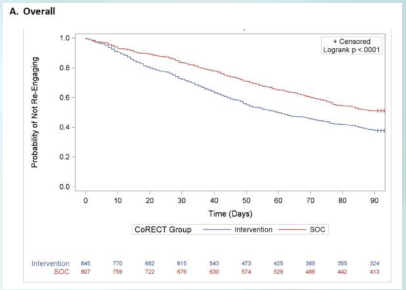
Dombrowski: out of care for 12 months, stepped wedge randomized study, D2Cto find and relink: negative.

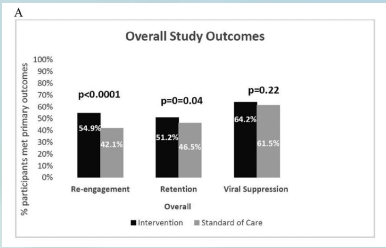
Fanfair: in care in last 12m, but out of care for last 6m, individually randomized, hybrid (public health + clinic sharing data) D2C to find and relink: faster and more re-engagement; no impact on VS.

Research paper

The Cooperative Re-Engagement Controlled trial (CoRECT): A randomised trial to assess a collaborative data to care model to improve HIV care continuum outcomes ☆

Robyn Neblett Fanfair[a,*], George Khalil[a], Tiffany Williams[a,b], Kathleen Brady[c], Alfred DeMaria[d], Merceditas Villanueva[e], Liisa M. Randall[d], Heidi Jenkins[f], Frederick L. Altice[e], Nasima Camp[a,b], Crystal Lucas[c], Marianne Buchelli[f], Taraz Samandari[a], Paul J. Weidle[a]





Fanfair et al., Lancet Regional Health – Americas 3 (2021) 100057

D2C: Likely utility, dependent on data, cycle time for processing, timing, outreach. But still linking to the same system that failed the patient the first time (Matt Golden)

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(Re)-engage Out of Care PWH:

Hospitalized PWH

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Original Investigation

Effect of Patient Navigation With or Without Financial Incentives on Viral Suppression Among Hospitalized Patients With HIV Infection and Substance Use

A Randomized Clinical Trial

Lisa R. Metsch, PhD; Daniel J. Feaster, PhD; Lauren Gooden, PhD; Tim Matheson, PhD; Maxine Stitzer, PhD; Moupali Das, MD; Mamta K. Jain, MD; Allan E. Rodriguez, MD; Wendy S. Armstrong, MD; Gregory M. Lucas, MD, PhD; Ank E. Nijhawan, MD; Mari-Lynn Drainoni, PhD; Patricia Herrera, MD; Pamela Vergara-Rodriguez, MD; Jeffrey M. Jacobson, MD; Michael J. Mugavero, MD; Meg Sullivan, MD; Eric S. Daar, MD; Deborah K. McMahon, MD; David C. Ferris, MD; Robert Lindblad, MD; Paul VanVeldhuisen, PhD; Neal Oden, PhD; Pedro C. Castellón, MPH; Susan Tross, PhD; Louise F. Haynes, MSW; Antoine Douaihy, MD; James L. Sorensen, PhD; David S. Metzger, PhD; Raul N. Mandler, MD; Grant N. Colfax, MD; Carlos del Rio, MD

	No./Total (%)		
	Navigation Only	Navigation + Incentives	Usual Treatment
Primary Outcome at 12 Months[b]			
Treatment success	89/249 (35.7)	98/254 (38.6)	85/249 (34.1)
Viral suppression (success)[c]	89/217 (41.0)	98/225 (43.6)	85/220 (38.6)
Death (failure)[d]	32/249 (12.9)	29/254 (11.4)	29/249 (11.7)
Secondary Outcomes at 6 Months[j]			
Treatment success	97/248 (39.1)	120/260 (46.2)	89/253 (35.2)
Viral suppression (success)[c]	97/225 (43.1)	120/238 (50.4)	89/233 (38.2)
Deaths (failure)[d]	23/248 (9.3)	22/260 (8.5)	20/253 (7.9)

Metsch: out of care population, hospitalized, peer navigation plus incentives x 6 m (max $1160): impact at end of intervention but by 12 m: negative (Metsch et al., JAMA 2016;316(2): 156-170)

Giordano: out of care population, hospitalized, peer mentoring in hospital: negative (Giordano et al., Clin Infect Dis 2016 Sep 1;63(5):678-686)

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Re-engage Out of Care PWH:

PWH in Jail and Prison

JAMA Internal Medicine | Original Investigation

Effectiveness of a Peer Navigation Intervention to Sustain Viral Suppression Among HIV-Positive Men and Transgender Women Released From Jail

The LINK LA Randomized Clinical Trial

William E. Cunningham, MD, MPH; Robert E. Weiss, PhD; Terry Nakazono, MS; Mark A. Malek, MD; Steve J. Shoptaw, PhD; Susan L. Ettner, PhD; Nina T. Harawa, PhD

Cunningham: in jail, 12 pre-release sessions, with contact post-release: kept VL and RIC from declining post release (Cunningham JAMA Inten Med 2018;178(4):542-553)

Wohl: Negative study of pre-/post-release intervention (MI, SMS, active linkage) from prison (Wohl et al., imPACT intervention, JAIDS 2017;75(1);81-90)

Table 2. Effect of the LINK LA Intervention on Viral Suppression[a] After Jail Release

Measurement Time	No./No. (Probability[b]) Intervention	Control	Probability Difference (95% CI)[c]	*P* Value[d]
Baseline (n = 356)	88/180 (0.49)	91/176 (0.52)	−0.04 (−0.18 to 0.10)	.60
3 Months (n = 315)	82/157 (0.53)	63/158 (0.37)	0.16 (0.01 to 0.31)	.03
Change at 3 months (95% CI)[c,e]	0.04 (−0.08 to 0.17)	−0.16 (−0.28 to −0.03)[f]	0.20 (0.02 to 0.38)	.02
12 Months (n = 250)	62/125 (0.49)	45/125 (0.30)	0.18 (0.02 to 0.40)	.03
Change at 12 months (95% CI)[c,e]	0.003 (−0.130 to 0.140)	−0.22 (−0.35 to −0.09)[g]	0.22 (0.03 to 0.41)	.02

Table 3. Effect of the LINK LA Intervention on Linkage to and Retention in HIV Primary Care After Jail Release[a]

Measurement Time	Intervention (95% CI) (n = 180)	Control (95% CI) (n = 176)	Difference (95% CI)[b,c]	*P* Value[d]
Retention in HIV Care[f]				
Baseline (n = 350)	1.64 (1.29 to 2.00)	2.26 (1.74 to 2.77)	−0.61 (−1.24 to 0.01)[g]	.054
3 Months (n = 312)	3.08 (2.56 to 3.61)	3.04 (2.52 to 3.55)	0.04 (−0.69 to 0.77)	.90
Change at 3 months (n = 307)[a,c]	1.44 (0.89 to 1.98)[h]	0.78 (0.18 to 1.38)[g]	0.66 (−0.15 to 1.47)	.11
6 Months (n = 261)	2.15 (1.79 to 2.50)	2.15 (1.75 to 2.55)	−0.001 (−0.54 to 0.53)	>.99
Change at 6 months (n = 256)[a,c]	0.50 (0.10 to 0.90)[g]	−0.11 (−0.66 to 0.44)	0.61 (−0.07 to 1.30)	.08
12 Months (n = 235)	2.25 (1.87 to 2.64)	2.16 (1.79 to 2.53)	0.09 (−0.44 to 0.62)	.73
Change at 12 months (n = 232)[a,c]	0.61 (0.17 to 1.06)[g]	−0.10 (−0.63 to 0.44)	0.71 (0.01 to 1.40)[g]	.047

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Engage PWH:
Rapid Start

Cochrane meta-analysis
(no US RCTs)

Summary of findings for the main comparison. Rapid antiretroviral therapy (ART) compared to standard care for people living with HIV

Rapid ART compared to standard care for people living with HIV

Patient or population: people living with HIV
Setting: any
Intervention: rapid ART
Comparison: standard care

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect (95% CI)	Number of participants (studies)	Certainty of the evidence (GRADE)	Comments
	Risk with standard care	Risk with rapid ART				
Mortality at 12 months	44 per 1000	32 per 1000 (22 to 44)	RR 0.72 (0.51 to 1.01)	5451 (7 RCTs)	⊕⊝⊝⊝ **Very low**[a,b,c]	We do not know if rapid ART has an effect on mortality after one year of follow-up.
Virological suppression at 12 months	506 per 1000	597 per 1000 (556 to 642)	RR 1.18 (1.10 to 1.27)	2719 (4 RCTs)[d]	⊕⊕⊕⊝ **Moderate**[e,f,g,h]	Rapid ART probably increases the likelihood of individuals being virally suppressed after 12 months.
Retention in care at 12 months	538 per 1000	656 per 1000 (597 to 726)	RR 1.22 (1.11 to 1.35)	5001 (6 RCTs)	⊕⊕⊝⊝ **Low**[g,h,i,j]	Rapid ART may improve retention in care at 12 months.
Uptake of ART at 90 days	719 per 1000	942 per 1000 (848 to 1000)	RR 1.31 (1.18 to 1.45)	11,404 (4 RCTs)	⊕⊕⊝⊝ **Low**[h,k,l]	Rapid ART may improve uptake of ART at 90 days.
Uptake of ART at 12 months	870 per 1000	948 per 1000 (922 to 975)	RR 1.09 (1.06 to 1.12)	3713 (4 RCTs)	⊕⊕⊕⊝ **Moderate**[h,k]	Rapid ART probably improves uptake of ART at 12 months.
Treatment modification	2 per 1000	23 per 1000 (4 to 119)	RR 7.89 (0.76 to 81.74)	977 (2 RCTs)	⊕⊝⊝⊝ **Very low**[m,n]	We do not know the effect of rapid ART on treatment modification.

***The risk in the intervention group** (and its 95% CI) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).
Abbreviations: ART: antiretroviral therapy; CI: confidence interval; RR: risk ratio.

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Mateo-Urdiales A, Johnson S, Smith R, Nachega JB, Eshun-Wilson I. Rapid initiation of antiretroviral therapy for people living with HIV. Cochrane Database of Systematic Reviews 2019, Issue 6. Art. No.: CD012962. DOI: 10.1002/14651858.CD012962.pub2.

(Re)-engage Out of Care PWH:

#CONTINUUM2024

Financial Incentives

Effectiveness of Financial Incentives in Achieving UNAID Fast-Track 90-90-90 and 95-95-95 Target of HIV Care Continuum: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

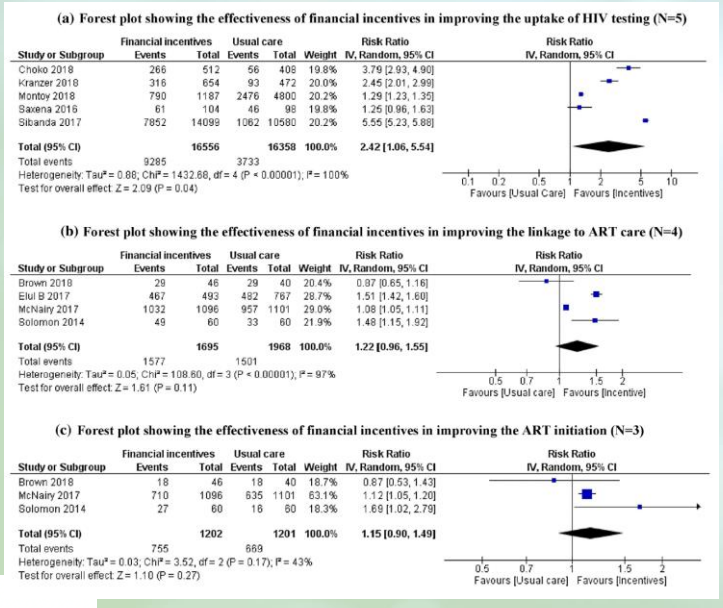
Yuvaraj Krishnamoorthy[1] · Tanveer Rehman[1] · Manikandanesan Sakthivel[2]

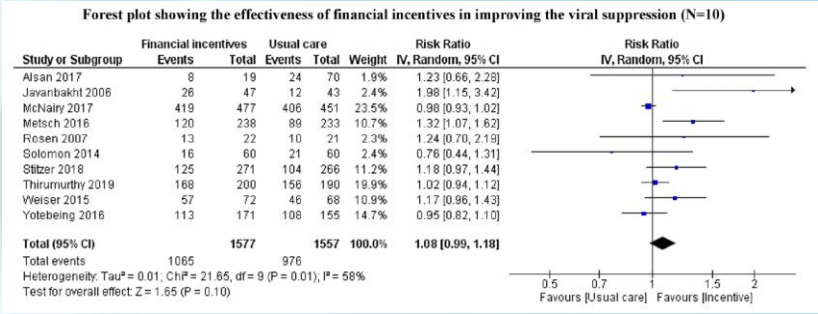
AIDS and Behavior (2021) 25:814–825
https://doi.org/10.1007/s10461-020-03038-2

Testing*

Linkage to ART

ART initiation





Viral Suppression

HITS Study 2021: Conditional financial incentives for home testing and linkage in South Africa; increased HIV testing in men and women; and increased linkage within 6 weeks in women. Tanser et al. J Int AIDS Soc. 2021;24(2):e25665.

Financial Incentives: Funding source, logistics, kick-back concerns, durability of impact raise implementation and sustainability concerns

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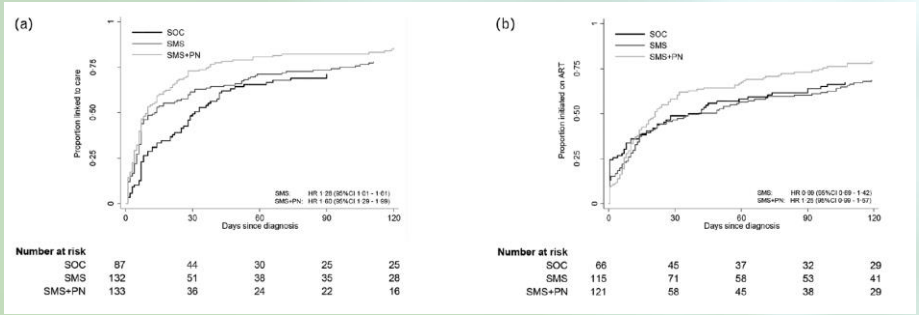
Engage PWH:
SMS and Peer Navigation

Impact of short message service and peer navigation on linkage to care and antiretroviral therapy initiation in South Africa

Sheri A. Lippman[a], Julia de Kadt[b], Mary J. Ratlhagana[b], Emily Agnew[a], Hailey Gilmore[a], Jeri Sumitani[b], Jessica Grignon[b,c], Sarah A. Gutin[a], Starley B. Shade[a], Jennifer M. Gilvydis[b], John Tumbo[d], Scott Barnhart[c,e] and Wayne T. Steward[a]



Lippman: newly diagnosed population, randomized, SMS (automated) and SMS (live) + peer navigation:

SMS and SMS+PN improved linkage; and SMS+PN improved ART initiation.

Appointment reminders help;

SMS with interactive "live" respondent more effective;

SMS paired with other interventions like PN likely more robust than SMS alone

Lippman, AIDS 2023; 37:647-657

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(Re)-engage PWH:
Differentiated Care

- More focus on retention rather than re-engagement
- Data for home delivery, adherence clubs and extended refills
- Most studying reducing services for successfully treated in LMIC
- Few study intensifying services for the needy
  - MAX Clinic in Seattle
  - Ward 86 program for LA-ART in patients without VL suppression

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Improving Engagement in Care

- Data from other studies support:
  - Neighborhood and home testing (in LMIC)
  - Enhanced contact
  - Clinic-wide marketing (e.g., posters, brochures, and customer service training of patient-facing staff) to promote attending scheduled visits
  - An optimal patient care experience, constructively affirming attendance rather than criticizing non-attendance, and collaboratively problem solving with patients to overcome barriers to care
  - Stepped case management and social and outreach services
  - Flexible appointment schedules, expanded clinic hours, and copay and other financial or insurance assistance to support uninterrupted access to care
  - See DHHS treatment guidelines for references

Engaging and Re-engaging in HIV Care

Research Opportunities

- Identify and reach higher prevalence micro-communities with low access to services and intervene with interventions tailored to these populations
- Develop and test multi-faceted, tailored, adaptive interventions
- Integrate clinical services into non-clinical sites
- Address syndemics where the “syn” is likely more difficult to address than the HIV is
- Self-test for HIV and for VL failure
- Reduce/address stigma, bias, discrimination and inequity (Munoz-Laboy, SUNY Stony Brook, R01 testing delivering legal aid)
- Study and intervene on policy and funding
- Maximize technology (telemedicine, virtual communities, apps, AI)

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Acknowledgements

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Patients

Institutions
Baylor College of Medicine
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Harris Health System
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IQUEST

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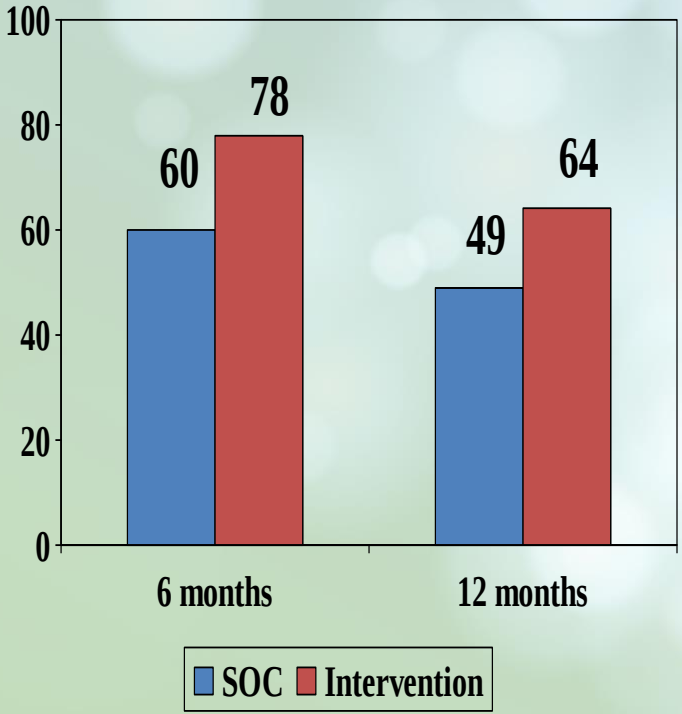
Engage PWH in US:

ARTAS



- 273 participants, 4 cities
- 78% diagnosed <6 m
- 90 d of strength-based case management compared to passive linkage

Replicated in ARTAS II

All service linkage workers, patient navigators, and disease intervention specialists (DIS) should be trained in ARTAS

Gardner, AIDS 2005, 19:423; Gardner AIDS Pt Care STD 2007, 6:418

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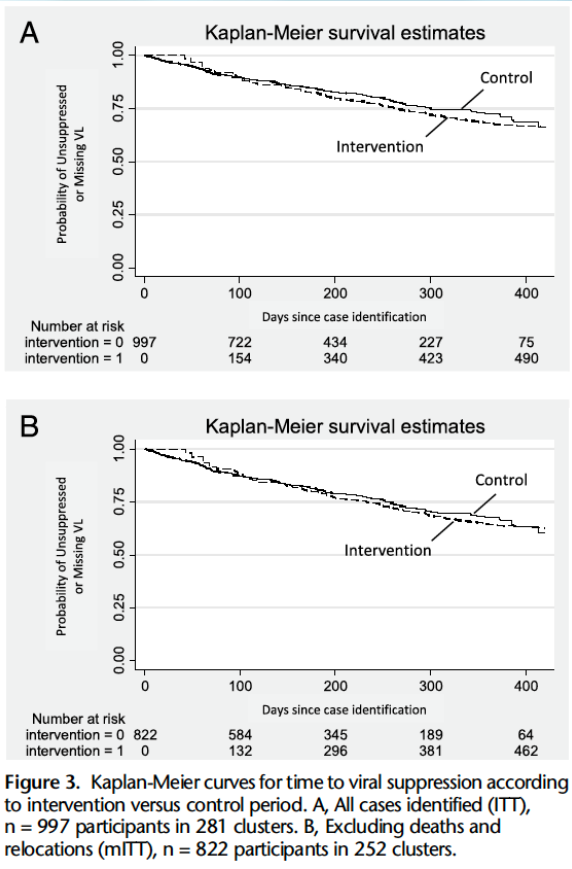

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Re-engage Out of Care PWH:

#CONTINUUM2024

Data to Care

Research paper

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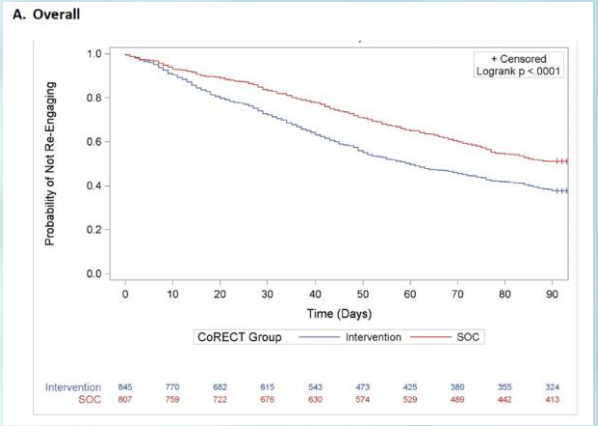
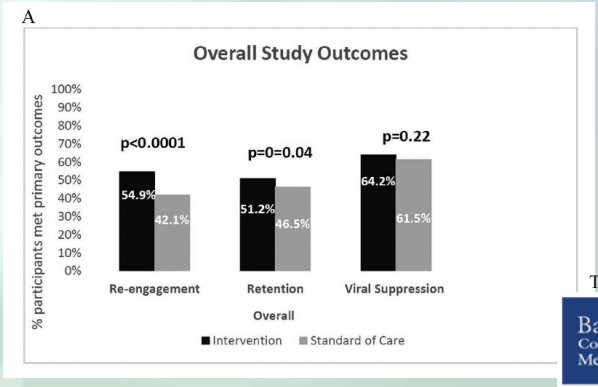
Fanfair: in care in last 12m, but out of care for last 6m, individually randomized, hybrid (public health + clinic sharing data) D2C to find and relink: faster and more re-engagement; no impact on VS.





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Fanfair et al., Lancet Regional Health – Americas 3 (2021) 100057

Improving Retention in Care:
One successful RCT for general US clinical setting:
Retention through Enhanced Personal Contact: "REP-C"

Enhanced Personal Contact With HIV Patients Improves Retention in Primary Care: A Randomized Trial in 6 US HIV Clinics

Lytt I. Gardner,[1] Thomas P. Giordano,[2] Gary Marks,[1] Tracey E. Wilson,[3] Jason A. Craw,[1] Mari-Lynn Drainoni,[4,5,6] Jeanne C. Keruly,[7] Allan E. Rodriguez,[8] Faye Malitz,[9] Richard D. Moore,[7] Lucy A. Bradley-Springer,[10] Susan Holman,[11] Charles E. Rose,[1] Sonali Girde,[1,12] Meg Sullivan,[6] Lisa R. Metsch,[13] Michael Saag,[14] and Michael J. Mugavero,[14] for the Retention in Care Study Group[a]

Intervention Activities: Enhanced Contact Arm

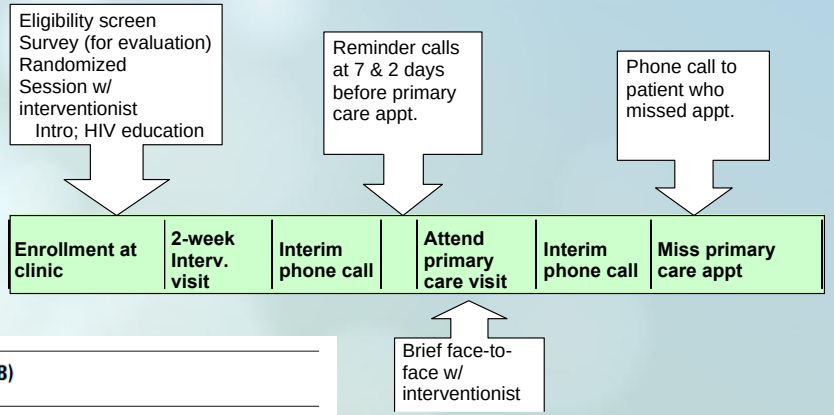

Table 2. Retention in Care Outcomes by Intervention Arm, Retention in Care Study, 2010–2012 (N = 1838)

Study Arm	Visit Constancy, %[a]	Risk Ratio (95% CI)	Visit Adherence, %[b]	Risk Ratio (95% CI)
Enhanced contact only (n = 615)	55.8	1.22 (1.09–1.36)	72.5	1.08 (1.05–1.11)
Enhanced contact plus skills (n = 610)	55.6	1.22 (1.09–1.36)	70.9	1.06 (1.02–1.09)
Standard of care (n = 613)	45.7	Ref	67.2	Ref

Abbreviation: CI, confidence interval.

[a] Defined as percentage of participants with a care visit in each of 3 consecutive 4-month intervals.

[b] Defined as each patient's kept visits divided by scheduled appointments (excluding canceled).

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